DOCUMENT RESUME

ED 327 217 IR 053 487

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TITLE	Automation for the School Library Media Center. ERIC Digest.
INSTITUTION	ERIC Clearinghouse on Information Resources, Syracuse, N.Y.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO	EDO-IR-90-3
PUB DATE	Nov 90
CONTRACT	RI88062008
NOTE	4p.
AVAILABLE FROM	ERIC Clearinghouse on Information Resources, 030 Huntington Hall, Syracuse University, Syracuse, NY 13244-2340 (free while supply lasts).
PUB TYPE	Information Analyses - ERIC Information Analysis Products (071) --
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Elementary Secondary Education; Integrated Library Systems; *Learning Resources Centers; Library Administration; *Library Automation; Library Personnel; *Library Services; *Media Specialists; Online Catalogs; *School Libraries
IDENTIFIERS	ERIC Digests

ABSTRACT

Basic options for the automation of management functions in the school library media center are the circulation system, the online catalog, the acquisitions system, and the serials check-in. In order to select the most appropriate system, library media specialists must: (1) research both the library's needs and the technologies available, and (2) develop plans to guide decisions about purchases, training for staff, and maintenance. The findings of this research will be used to develop detailed plans and budgets that include training for the media specialist and the costs of hardware, software, and databases. Since few integrated systems exist which incorporate all of the library's automated functions, a decision will have to be made whether to install two or more limited integrated systems (such as catalog/circulation and acquisitions/serial check-in) or four separate systems. In either case, compatibility--i.e., the ability to transfer data between systems--is an important feature to be considered. Another major concern is the entry of data in the new system, particularly catalog and circulation data. In addition, retrospective conversion of existing catalog records to machine-readable form can be expensive and time-consuming, whether performed on-site or externally by a vendor. The impacts of automation are both immediate and long-term. School library media centers which have automated their management operations have found that students and faculty have been able to access information more easily and that routine tasks can now be performed more quickly. However, these same library media centers must be prepared to handle a lack of standardization at various access levels, and to learn to work on upgraded software and hardware as they become available. (10 references) (MAB)

ED327217

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by

Linda Schamber

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November 1990

IR053487

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Automation for the School Library Media Center

by Linda Schamber

The thousands of school library media centers (LMCs) across the country that have automated their collection management operations have found that performance of routine tasks by staff and access to information by students and faculty have become a great deal faster and easier. Automation often begins with microcomputer-based circulation and online catalog systems, but the available capabilities and the potential for expansion extend far beyond these basic functions. This digest will focus on initial considerations for implementing an automated facility.

Basic Options

Automated systems are available for four basic management functions:

The **circulation system** tracks the status of all LMC materials that circulate. It allows fast entry of borrowed items and easy identification of overdue accounts through records of all patrons. It prints overdue notices and establishes waiting or hold lists.

The **online catalog** provides instant access to catalog records as well as inventory data and brief acquisitions records via powerful interactive searching and help capabilities. It allows browsing as well as keyword searches on author, title, subject and other fields such as notes and copyright. Boolean logic can be used for complex searches. Searching is assisted by help menus, prompts, mouse pointing devices, and visual or audio tutors. The online catalog may contain other types of databases, such as journal indexes, and it may allow remote access from classroom, office, or home. The online catalog also contains a cataloging component to assist in developing MARC (machine-readable cataloging) records.

The **acquisitions system** manages ordering functions, from entering order data through claiming items ordered but not received. It maintains financial records and publisher lists. It allows instant entry of records for newly acquired books with catalog records on disk or bar codes (sometimes these catalog records are part of the catalog module). Brief acquisitions records may be downloaded into the circulation system.

Serials check-in maintains records of journals, magazines, and other items received periodically. It tracks publication dates, maintains financial records, and generates claim notices for late items.

The software for these systems is designed for ease of data entry and flexibility in searching. Once the databases are set up, LMC staff can quickly enter updates and generate inventories and reports on collection use, overdues, and budgets.

Research and Planning

Introducing automation involves, first, researching both LMC needs and the technologies available and, second, developing plans to guide decisions about purchases, training, and maintenance.

Before library media specialists focus on system features and specifications, they should look at how automation will help different kinds of LMC users to be more productive in their work, and at how it will help the LMC meet its overall instructional goals. This requires an assessment of current needs and uses of the LMC by students, teachers, and LMC staff. The results will not only make it easier to choose appropriate systems; hard data collected at this time on collection use, materials budgets, etc. will also provide baselines for comparison in future reports and requests.

Technological options must also be researched. In the automated LMC, hard-drive IBM PCs or IBM compatibles are the standard equipment. These may be linked to CD-ROM laser readers for access to inexpensive mass storage, to modems to facilitate internal or external networking, and to input/output devices such as bar code scanners and printers. The library media specialist should learn about CD-ROM databases, online bibliographic utilities, interface software, and other resources that might be considered for future expansion and networking. Information about hardware and software may be obtained from professional journals and conferences, colleagues at other schools who have implemented automation programs, and system and database vendors who will provide demonstrations and specifications.

The second major task, after research, is to develop detailed plans and budgets. These should include staff and training considerations as well as outright costs of hardware, software, and databases. Note that initial outlays for software, hardware, and data entry will be high, but that ongoing costs for updates, maintenance, and even expansion may be lower than they were before automation. At the same time, bear in mind that many new technologies have been so popular with users that schools have had to budget for expansion earlier than expected. The most practical strategy is to map out a phased automation schedule with the understanding that it may have to be revised. Evaluations should be scheduled at major points so that results of implementing automation can be documented and justified.

Specific software and hardware costs vary widely, from less than $4,000 for a single-user circulation/catalog workstation to more than $40,000 for a multi-user network supporting an integrated multifunction system (Murphy, 1989). The library media specialist may have to look for financial support beyond the school or school system. Some state education departments have been very supportive of library automation programs. Other schools may be able to describe funding strategies that have been successful. Library media specialists might also consider institutional cooperation; every effort that can be shared with other schools or libraries, such as conversion to a joint online catalog or networking of database resources, lowers the cost for the individual facility.

Compatibility and Conversion Issues

Two of the biggest decisions in automating the LMC concern compatibility among systems performing basic management functions, and conversion of records to digital form for these systems. The decisions involve a number of complex tradeoffs.

Circulation, catalog, acquisitions, and serial check-in functions may be performed by separate systems linked together or by an integrated system that uses one set of MARC records to perform various functions. Potter (1988) notes that with separate systems, the LMC can choose the best software for its purposes. Each system, however, may run on its own machine, which could lead to technical compatibility problems. Staff may find it difficult to transfer data from one system to another and to learn different commands for each function. On the other hand, the entire LMC is less likely to suffer if one system fails, and it need not rely on just one vendor for support. In an integrated system, data and commands are likely to be consistent from one function to another.

Unfortunately, few integrated systems exist that incorporate all library automation functions. An alternative is to choose two or more limited integrated systems, usually catalog/circulation and acquisitions/serial check-in. (The combined catalog/circulation system is most widely used in LMCs, and many programs are currently available.) Some vendors of one type of integrated system offer interfaces to transfer data to the other type of system. The most success has been reported with this combined strategy and with fully integrated systems.

A major concern is entering data in the new systems, particularly catalog and circulation data. Retrospective conversion of existing catalog records can be expensive and time-consuming, whether performed on-site or externally by a vendor. Murphy (1990) describes a number of software programs and vendor services that can make the process more manageable. Vendors convert records by matching the school's shelf list against their Library of Congress authority list and other databases at a cost, roughly, of ten cents to a dollar per record. The records themselves are stored on floppy disks, hard disks, or CD-ROMs. CD-ROMs are the most expensive but have the greatest storage capacity; it is possible for 20 or more schools to share the cost of putting their catalogs on a single CD-ROM.

Regardless of who does the conversion, it is recommended that the records adhere to the nationally standardized MARC format used in all major bibliographic databases. In addition to facilitating conversion, MARC allows records to be transferred and shared among different cataloging systems, libraries, and online utilities, thus opening the door to a variety of options for shared resources.

Impacts of Automation

Automation has immediate and long-term effects at every level:

Staff: The LMC must plan for a reapportionment of time to train staff, and for staff, in turn, to train and assist faculty and students. Staff may spend less time on routine tasks, but they must still deal with a lack of standardization at all levels of access and use in current systems, as well as maintenance problems and downtime. Finally, they must be prepared to learn to work on upgrades of software and hardware as they become available.

Users: The most prominent characteristic of online catalogs and CD-ROM databases is their ease of use. Students are motivated to interact with the machine and to browse through and play with information in a way that naturally tends to improve their information skills. Nevertheless, library media specialists should revise their curricula to encourage the development of electronic searching skills and the use of electronic resource materials.

Collections: The most clear-cut impact of online catalogs and CD-ROM databases has been the result of their popularity: increased use of catalogs has led to increased use of LMC materials. There has also been a high demand for computer workstations. Library media specialists have found both that the nature of reference work has changed and that access is a more critical issue than ever.

Expansion: The success of early automation efforts has propelled many libraries and LMCs rather quickly into the addition of further resources and services. Periodical indexes have been added to online catalogs, and multimedia reference materials such as encyclopedias have been made available at CD-ROM workstations. Workstations allow the use of reference materials and applications software, like word processors, at the same time. Telecommunications allows access to bibliographic utilities and the networking of systems for shared cataloging and interlibrary loan.

Potter (1989), Eisenberg (1990), and many others discuss technological trends and their implications. For the library media specialist, these trends mean that the same kinds of skills and knowledge required for the early stages of automation have become ongoing components of library and information management. Automation, as Hoffmann (1988) aptly describes it, is "a process, not a project."

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This digest was prepared for the ERIC Clearinghouse on Information Resources by Linda Schamber, School of Information Studies, Syracuse University. November 1990.

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This publication was prepared with funding from the Office of Educational Research and Improvement, U.S. Department of Education, under contract no. RI88062008. The opinions expressed in this report do not necessarily reflect the positions or policies of OERI or ED.